

### Amendments to the Specification

Please amend the last three paragraphs of the specification (page 12, line 15 to page 13, line 19) as follows:

Solid-state  $^{51}\text{V}$  NMR using magic angle spinning (MAS) and static wide-line methods were used to characterize some of the sorbents. Spectra were obtained on a Varian INOVA 400 NMR spectrometer, operating at 399.8 MHz for  $^1\text{H}$ , and 105.1 MHz for  $^{51}\text{V}$ , using a MAS probe with 5 mm white zirconia rotors spinning at 10 to 12 KHz, or non-spinning (static).  $^{51}\text{V}$  chemical shift was determined by using  $\text{NH}_4\text{VO}_3$  as a secondary chemical shift reference at -576 ppm (and using  $\text{VOCl}_3$  as a primary chemical shift reference at 0 ppm). This was accomplished by running the sample at two different spinning frequencies, 10 and 12 kHz, to distinguish the isotropic chemical shift peak from the sidebands. ~~With reference to FIG. 1, the~~ The V-51 MAS and static spectra of 11.2 wt. % vanadium supported on used FCC catalyst (support B) show a distinct difference between the two low temperature calcined samples (300° and 350° C) and the two higher temperature calcined samples (375° and 450° C). The low temperature samples have broader peaks in the MAS but narrower width of static spectra. These results suggest that vanadium oxide is predominantly in an amorphous state for calcination temperatures of 350° C and below. However, as the calcination temperature increases, the vanadium forms crystalline  $\text{V}_2\text{O}_5$ .

X-ray diffraction measurements were made on a PanAnalytical Expert Pro Diffractometer with an accelerator linear array detector and a copper  $\text{K}\alpha$  source. Three samples were evaluated by XRD-11.2 wt. % vanadium supported on a used FCC catalyst (support B) that was calcined either at 300°, 350°, or 450° C. ~~With reference to FIGS. 2-4, the~~ The 450° C calcined samples

show evidence of crystalline  $V_2O_5$ . The lower temperature calcined samples show no evidence of crystalline  $V_2O_5$ , but do indicate a presence of amorphous vanadates.

A LabRam Infinity Raman Microscope (JY Horiba, Inc.) was used to evaluate 11.2 wt. % vanadium samples on used FCC catalysts (support B) calcined at various temperatures. The instrument utilizes an Olympus BX40 microscope and is enclosed in a light-sensitive box to avoid fluorescence interferences from room lights. A 532 nm laser and an 80 times objective are used for all analyses. ~~With reference to FIGS. 5-6, the~~ The results indicate that calcination temperatures above 350° C induce the formation of crystalline  $V_2O_5$ . The Raman results suggest the presence of polymeric-type amorphous vanadium at calcination temperatures of 350° C and lower.